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10/584,220	06/23/2006	Keiichi Chono	Q95587	1678

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EXAMINER	
PONTIUS, JAMES M	
ART UNIT	PAPER NUMBER
2483	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/584,220	CHONO, KEIICHI	
	Examiner	Art Unit	
	James Pontius	2483	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 June 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :06/23/2006; 12/18/2006; 06/08/2010; 09/14/2010.

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because item 102 of Figure 12 is not in English. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the

remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because it is almost a complete restatement of claim 1. The form and legal phraseology often used in patent claims should be avoided. Correction is required. See MPEP § 608.01(b).

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

5. The disclosure is objected to because of the following informalities (note that Examiner is referring to paragraph numbers of the Patent Application Publication of the instant Application):

The last sentence of [0011] contains a misspelling;

The second sentence of [0012] is grammatically incorrect;

Appropriate correction is required.

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

7. Claim 1 is objected to because of the following informalities: In the first paragraph after the preamble, the word "form" should read "from". Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 23-26 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a program and computer readable medium for making a computer execute a particular encoding, does not reasonably provide enablement for a program and computer readable medium that itself makes a computer, where this constructed computer executes a particular encoding. The specification does not enable any person skilled in the art to which it pertains, or with which it is most

nearly connected, to make and use the invention commensurate in scope with these claims.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 7-8 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claims 7-8, which depend from claim 1, recite arranging the encoded frames, however claim 1 only requires encoding one frame. It is unclear how to arrange multiple encoded frames using only one encoded frame.

13. Claim 22 recites the limitation "said video decoder 1" in the second paragraph after the preamble. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

14. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

15. Claims 1-10 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent and recent Federal Circuit decisions indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus); or (2) transform underlying subject matter (such as an article or material) to a different state or thing. Additionally, the use of a particular machine or transformation must impose a meaningful limit on the claim's scope and must involve more than insignificant "extra solution" activity. While instant claims 1-10 recite a series of steps or acts to be performed, the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example, it is unclear what performs, in electronic form, the selecting and encoding steps recited in the method claims.

16. Claims 23-24 are rejected under 35 U.S.C. 101 because the claims have improper language regarding a program (Please see the MPEP 2106 Section IV. Determine Whether the Claimed Invention Complies with 35 U.S.C. 101). A program can be implemented entirely in software. Since the software is not embodied within a computer readable medium, the invention is directed towards non-statutory subject matter.

17. Claims 25-26 are rejected under 35 U.S.C. 101 because the claims have improper language regarding the computer readable medium (Please see the MPEP

2106 Section IV. Determine Whether the Claimed Invention Complies with 35 U.S.C. 101). The claims fail to disclose the relation between the computer program and computer-readable storage medium. The Examiner suggests changing the preamble, provided this is supported by the specification, to "a computer-readable storage medium encoded with (stored thereon, embedded with or embodying) a computer program, causing the computer to execute:" Linking words such as including, comprising, listing and having, are not acceptable as a substitute term for "encoded with".

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

19. Claims 1-2, 7, 11-12, 17 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Cosman et al. (US 2006/0098738).

20. Regarding claim 1, Cosman discloses:

A moving picture encoding method for performing a multi-frame motion prediction with reference to a plurality of picture frames, comprising:

selecting at least one reference frame form a plurality of reference frames of the same picture type which are used for the multi-frame motion prediction of a certain frame (Cosman: [0024]; [0026]); and

encoding the selected reference frame in a higher picture quality than the other reference frames of the same picture type (Cosman: [0023]).

21. Regarding claim 2, Cosman discloses:

The method according to claim 1, wherein the frame encoded in the higher picture quality is a frame to which more code amount is assigned than the other frames of the same picture type (Cosman: [0023]).

22. Regarding claim 7, Cosman discloses:

The method according to claim 1, further comprising a step of:

arranging the frames encoded in the higher picture quality at constant frame intervals (Cosman: [0030]).

23. Regarding claims 11-12, Cosman discloses the system limitations of these claims as discussed above with respect to claims 1-2.

24. Regarding claim 17, Cosman discloses:

The apparatus according to claim 11, wherein said selection means selects said reference frame at constant frame intervals (Cosman: [0025]).

25. Regarding claim 21, Cosman discloses the system limitations of this claim as discussed above with respect to claim 1.

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

27. Claims 3-6, 8 13-15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman et al. (US 2006/0098738) in view of Hui (WO 99/63760).

28. Regarding claim 3,

Cosman teaches:

The method according to claim 1 (as shown above),

Cosman fails to teach:

wherein the frame encoded in the higher picture quality is a frame having a smaller quantizing parameter than the other frames of the same picture type.

Hui teaches:

wherein the frame encoded in the higher picture quality is a frame having a smaller quantizing parameter than the other frames of the same picture type (Hui: pg 2, line 18-25; pg 3, line 11-23).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Hui with Cosman. Lessening a quantization parameter in order to increase quality, as in Hui, would benefit the Cosman device by optimizing frame quality. Additionally, this is the application of a known technique, lessening a quantization parameter in order to increase quality, to a known device ready for improvement, the Cosman device, to yield predictable results.

29. Regarding claim 4,

Cosman teaches:

The method according to claim 1 (as shown above),

Cosman fails to teach:

wherein the frame encoded in the higher picture quality is a P-picture frame.

Hui teaches:

wherein the frame encoded in the higher picture quality is a P-picture frame (Hui: pg 2, line 18-25; pg 3, line 11-23; pg 5, line 7-24).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Hui with Cosman. Encoding a frame in a certain manner due to the frame being a P-picture would benefit the Cosman device by providing for coding adjustments to be made according to an amount of motion present between frames and frame quality, thereby increasing video compression while maintaining video quality. Additionally, this is the application of a known technique, encoding a frame in a certain manner due to the frame being a P-picture, to a known device ready for improvement, the Cosman device, to yield predictable results.

30. Regarding claim 5,

Cosman teaches:

The method according to claim 1 (as shown above),

Cosman fails to teach:

wherein the frame encoded in the higher picture quality is a B-picture frame.

Hui teaches:

wherein the frame encoded in the higher picture quality is a B-picture frame (Hui: pg 2, line 18-25; pg 3, line 11-23; pg 5, line 7-24).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Hui with Cosman. Encoding a frame in a certain manner due to the frame being a B-picture would benefit the Cosman device by providing for coding adjustments to be made according to an amount of motion present between frames and frame quality, thereby increasing video compression while maintaining video quality. Additionally, this is the application of a known technique, encoding a frame in a certain manner due to the frame being a B-picture, to a known device ready for improvement, the Cosman device, to yield predictable results.

31. Regarding claim 6,

Cosman in view of Hui teaches:

The method according to claim 5, further comprising a step of:

when a plurality of continuous B-picture frames is encoded, in comparison with a final B-picture frame in said continuous B-picture frames, encoding B-picture frames prior to said final B-picture frame in a higher picture quality (Hui: pg 2, line 18-25; pg 3, line 11-23; pg 5, line 7-24).

32. Regarding claim 8,

Cosman in view of Hui teaches:

The method according to claim 6, further comprising a step of:

arranging the frames encoded in the higher picture quality at constant frame intervals (Cosman: [0030]).

33. Regarding claims 13-15, Cosman in view of Hui teaches the system limitations of these claims as discussed above with respect to claims 3-5.

34. Regarding claim 22,

Cosman teaches:

An input/output apparatus to/from which moving picture data encoded by performing a multi-frame motion prediction with reference to a plurality of picture frames is input and output, comprising:

a video decoder for decoding said encoded moving picture data (Cosman: [0038]); and

monitor means for monitoring a picture type, a reference frame, a quantizing parameter, and a frame memory, supplied from said video decoder 1 (Cosman: [0038]) and for determining whether or not said encoded moving picture data includes a reference frame that is used for the multi-frame prediction and that is encoded in the higher picture quality than the other frames of the same picture type (Cosman: [0023]-[0026]; [0050]).

Cosman fails to teach:

monitor means for monitoring a variable length code

Hui teaches:

monitor means for monitoring a variable length code (Hui: pg 8, line 3-16; pg 9, line 5-7).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Hui with Cosman. Encoding a frame using variable length code and monitoring for such code at a decoder, as in Hui, would benefit the Cosman device by furthering compression frames, thereby decreasing bandwidth consumption. Additionally, this is the application of a known technique, encoding a frame using variable length code and monitoring for such code at a decoder, to a known device ready for improvement, the Cosman device, to yield predictable results.

35. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman et al. (US 2006/0098738) in view of Yutaka (JP 2001-128179).

36. Regarding claim 9,

Cosman teaches:

The method according to claim 1 (as shown above), further comprising a step of:

adaptively changing a frame interval of the frames encoded in the higher picture quality (Cosman: [0053])

Cosman fails to teach:

in accordance with differential information and motion information between a reference frame and a subject frame to be encoded.

Yutaka teaches:

in accordance with differential information and motion information between a reference frame and a subject frame to be encoded (Yutaka: abstract).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Yutaka with Cosman. Changing a frame interval of a reference frame based on inter-frame prediction, where inter-frame prediction is defined by Cosman to include motion and differential information (Cosman: [0004]-[0005]), would benefit the Cosman device by using a high quality reference frame that provides the best prediction ability. Additionally, this is the application of a known technique, changing a frame interval of a reference frame based on inter-frame prediction, to a known device ready for improvement, the Cosman device, to yield predictable results.

37. Regarding claim 19, Cosman in view of Yutaka teaches the system limitations of this claim as discussed above with respect to claim 9.

38. Claims 10, 16,18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman et al. (US 2006/0098738) in view of Hui (WO 99/63760) and Yutaka (JP 2001-128179).

39. Regarding claim 10,

Cosman in view of Hui teaches:

The apparatus according to claim 6 (as shown above), further comprising a step of:

adaptively changing a frame interval of the frames encoded in the higher picture quality

Cosman in view of Hui fails to teach:

in accordance with differential information and motion information between a reference frame and a subject frame to be encoded.

Yutaka teaches:

in accordance with differential information and motion information between a reference frame and a subject frame to be encoded (Yutaka: abstract).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Yutaka with Cosman in view of Hui. Changing a frame interval of a reference frame based on inter-frame prediction, where

inter-frame prediction is defined by Cosman to include motion and differential information (Cosman: [0004]-[0005]), would benefit the Cosman in view of Hui teachings by using a high quality reference frame that provides the best prediction ability.

40. Regarding claim 16,

Cosman in view of Hui teaches:

The apparatus according to claim 15 (as shown above),

Cosman in view of Hui fails to teach:

wherein said selection means, from a plurality of continuous B-picture frames, selects a B-picture frame prior to a final B-picture frame in said continuous B-picture frames.

Yutaka teaches:

wherein said selection means, from a plurality of continuous B-picture frames, selects a B-picture frame prior to a final B-picture frame in said continuous B-picture frames (Yutaka: Fig 9).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Yutaka with Cosman in view of Hui. Selecting a B-frame prior to a last B-frame, as in Yutaka, would benefit the Cosman in view of Hui

teachings device by using a frame that provides the best prediction ability depending on which frame is the current frame.

41. Regarding claim 18,

Cosman in view of Hui and Yutaka teaches:

The apparatus according to claim 16, wherein said selection means selects said reference frame at constant frame intervals (Cosman: [0030]).

42. Regarding claim 20,

Cosman in view of Hui and Yutaka teaches:

The apparatus according to claim 16, further comprising:

moving picture analysis means for outputting differential information and motion information between a reference frame and a subject frame to be encoded (Cosman: [0004]-[0005]):

wherein said selection means selects said reference frame in a manner that frame intervals of reference frames to be selected are adaptively changed in accordance with said differential information and said motion information (Yutaka: abstract).

43. Claims 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman et al. (US 2006/0098738) in view of Fries et al. (US 2006/0291559).

44. Regarding claims 23 and 25, Cosman teaches all the limitations of claims 23 and 25, as discussed above with respect to claim 1, but does not teach the preambles of claims 23 and 25. The preambles of claims 23 and 25 are taught by Fries ([0150]-[0154]). At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Fries with Cosman. Embodying the invention of Cosman in a program or computer readable storage medium would benefit the Cosman device by allowing for it to be more easily distributed among users. Additionally, this is the application of a known technique, embodying an invention in a program or computer readable storage medium, to a known device ready for improvement, the Cosman device, to yield predictable results.

45. Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman et al. (US 2006/0098738) in view of Hui (WO 99/63760), Yutaka (JP 2001-128179) and Fries et al. (US 2006/0291559).

46. Regarding claims 24 and 26, Cosman in view of Hui and Yutaka teaches all the limitations of claims 24 and 26, as discussed above with respect to claim 20, but does not teach the preambles of claims 24 and 26. The preambles of claims 24 and 26 are taught by Fries ([0150]-[0154]). At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Fries with Cosman in view of Yutaka. Embodying the invention of Cosman in a program or computer

readable storage medium would benefit the Cosman device by allowing for it to be more easily distributed among users.

Conclusion

47. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Pontius whose telephone number is (571) 270-7687. The examiner can normally be reached on Monday - Thursday, 8 AM - 4 PM est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Ustaris can be reached on (571) 272-7383. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James Pontius/
Examiner, Art Unit 2483

/Dave Czekaj/
Primary Examiner, Art Unit 2483